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***RXi*[™] PRINTER SPECIFICATIONS**

Specifications are provided for reference and are based on printer tests using Zebra brand ribbons and labels. Results may vary in actual application settings or when using other than recommended Zebra supplies. Zebra recommends always qualifying any application with thorough testing.

***RXi* Uniform Characteristics**

Standard Features

- Fully integrated ThingMagic UHF RFID Reader/Encoder
 - EPC Class 1
 - EPC Class 0
 - Matrics 0+
 - ISO 18000-06B
 - EPC “Gen2”
- RFID processes optimized for fastest label throughput
- RFID ZPL Commands allow ease of RFID set-up with maximum flexibility.
- Program position allows users to place transponders virtually anywhere within a smart label.
- RFID counters keep track of the good and bad labels.
- Variable RFID power settings for both read and write allows maximum flexibility for printing small labels.
- Full function front panel and multilingual back-lit LCD display with user-programmable password protection
- 4.0 MB Flash memory, including 2.0 MB user-available non-volatile memory storage for downloadable objects
- Communications via serial RS-232 and bi-directional parallel port with auto detect
- USB 2.0 (480 Mbits/second) port
- Thin film printhead with E³ Element Energy Control
- Thermal transfer and thermal direct printing of bar codes, text, and graphics
- Dual media sensors, transmissive and reflective, selectable through software or front panel
- ZPL[®] or ZPL II[®] programming language, selectable through software or front panel
- 32 bit 133 Mhz RISC processor
- 16 MB SDRAM memory, 12 MB user-available
- Type I, II linear memory up to 32 MB and future availability of Type III Series PC Card Interface
- Simultaneous ATA-style PCMCIA and Compact Flash (CF) memory card support up to 256 MB each (current market availability) for additional storage of fonts, graphics, logos, templates, and label formats, or preprogrammed with optional and international scalable fonts. PCMCIA is externally accessible and hot-swappable. CF is internal.
- Clear media side door—easy monitoring of supplies usage without opening the printer systems
- Zebra printer driver for Windows[™] 3.X and 95/98/NT/2000 operating
- Internal real-time clock
- Advanced label/media counters
- Auto calibration—printer calibrates when printer is turned on or when printhead is closed with approximately two labels
- Early Warning Systems—provide low label, low ribbon, and clean printhead alerts via the front panel and ZebraLink Alerts.

Optional Features

- ZebraNet PrintServer II—provides cost effective Ethernet connectivity to 10Base-T networks.
- ZebraNet 10/100 Print Server—supports 10Base-T, 100Base-TX, and fast Ethernet 10/100 auto-switching networks.
- XML Enabled Printing—allows XML communications from today’s enterprise systems for barcode label printing.
- APL-I Firmware—allows a 203dpi Zebra printer to parse and print IPL code intended for an Intermec 3400D or 86xx printer (With APL-I firmware installed, ZPL is no longer recognized and ZPL specific features are not available).
- APL-D Firmware- allows a 203 dpi Zebra printer to parse and print DPL code intended for Datamax Prodigy Plus, Prodigy, or Allegro Printers (With APL-D installed, ZPL programming language is not recognized, and ZPL specific features are not available.)
- ZebraNet Wireless Print Server—provides an internally integrated 802.11b wireless option and supports Symbol and Cisco radio cards.
- Clear media side bi-fold door—allows shorter media door opening radius
- Full-width rotary knife cutter and catch tray, operates under software control cutting labels individually or in strips
- Media rewind spindle—rewinds finished roll internally onto 3" (76 mm) core or enables label peel and liner rewind
- IBM[®] Twinax interface—emulates IBM System 3X and AS/400 printers
- IBM Coax interface—emulates IBM System 3270 printers
- Applicator interface—provides status and control signals for applicators and remote control devices
- Media supply spindle for 3" (76 mm) core or 40 mm core
- Factory installed 64 MB (61 MB user available) Flash Memory option
- Linear PCMCIA cards available 8 MB and 32 MB
- ATA-style PCMCIA 64, 128, 256 MB or Compact Flash memory cards 32, 64, 128, 256 MB.
- Additional fonts available

ZebraLink Solutions

Software

ZebraDesigner Pro – An intuitive, easy-to-use software program for creating complex label designs (option).

ZebraDesigner – Offers basic features for simple label design

ZebraNet Bridge Enterprise – Centrally manage Zebra printers from a single PC screen anywhere on your global network.

ZebraNet Utilities v 7.0 – Provides enhanced printing, conversion, and administration capabilities; message management; and more.

Zebra Universal Driver – The most powerful driver available from Zebra

Networking Options

ZebraNet Wireless Print Server (internal)

ZebraNet 10/100 Print Server (internal or external)

ZebraNet PrintServer II (internal or external)

IBM twinax/coax interfaces (internal)

Firmware

ZPL II – Universal language for Zebra printers. Simplifies label formatting and enables format compatibility with existing systems that run Zebra printers.

APL – Zebra’s Alternative Programming Language allows integration into mixed printer environments without re-programming formats

XML-enabled printing –direct connect integration for bar code label printing, eliminates license fees and printer server hardware and lowers customization and programming costs. .

Web View –Connect and control Zebra bar code printers via the printer’s Web interface using a common Web browser.

Alert – Printers equipped with ZebraNet print servers provide alerts via any email-enabled, wired, or wireless device to minimize downtime.

Media Specifications

- Transponders utilizing the following protocols are supported
 - EPC Class 0
 - Symbol 0+
 - EPC Class 1 (64-and 96-bit)
 - ISO 18000-06B
 - EPC “Gen2”
- Media type: continuous, die-cut, or black mark
- Minimum label length: *
 - Rewind mode: 0.25" (6 mm)
 - Peel mode: 0.5" (13 mm)
 - Tear-off mode: 0.7" (18 mm)
 - Cutter mode: 1.5" (38 mm)
- Media thickness (label and liner):
0.003" (0.076 mm) to 0.012" (0.305 mm)
- Maximum media roll size:
8.0" (203 mm) O.D. on a 3" (76 mm) I.D. core
- Transmissive (gap) sensing standards:
 - Interlabel gap: 2–4 mm, preferably 3 mm
 - Sensing notch: 0.25"W (6 mm) × 0.12"L (3 mm)
 - Sensing hole: 0.125" (3 mm) diameter
- Reflective (black mark) sensing standards:
 - Black mark length (parallel to inside media edge): 0.12"–0.43" (3–11 mm)
 - Black mark width (perpendicular to inside media edge): 0.43" (> 11 mm)
 - Black mark location:
 - within 0.040" (1 mm) of inside media edge:
 - Black mark density: >1.0 Optical Density Units (ODU)
 - Maximum media density: 0.5 ODU

Ribbon Specifications

- Standard Lengths: 1476' (450 m) or 984' (300 m)
Provides 2:1 and 3:1 media roll to ribbon ratios
- Maximum ribbon roll size:
3.2" (81.3 mm) O.D. on a 1.0" (25.4 mm) I.D. core
- Ribbon wound coated-side out

Font Specifications

- Bitmap fonts A through H and GS symbols are expandable up to 10 times, height and width independent
- Smooth scalable font Ø (CG Triumvirate™ Bold Condensed) is expandable dot-by-dot, height and width independent
- IBM Code Page 850 International Characters

Bar Code Symbologies & Specifications

- Bar code ratios: 2:1, 7:3, 5:2, and 3:1
- Linear bar codes: Code 11, Code 39, Code 93, Code 128 with subsets A/B/C and UCC Case Codes, ISBT-128, UPC-A, UPC-E, EAN-8, EAN-13, UPC and EAN 2-or 5-digit extensions, Plessey, Postnet, Standard 2-of-5, Industrial 2-of-5, Interleaved 2-of-5, Logmars, MSI, Codabar and Planet Code
- 2-dimensional bar codes: Codablock, PDF417, Code 49, DataMatrix, MaxiCode, QR Code, TLC 39, MicroPDF, RSS-14 (and composite), Aztec

Zebra Programming Language® (ZPL and ZPL II)

- Communicates in printable ASCII characters
- Unicode™ - Compliant (Version V60.14 and higher)
- Compatible with mainframe, mini, and PC hosts
- Downloadable objects include graphics, scalable and bitmap fonts, label templates, and formats
- Object copying between memory areas (RAM and PC memory card)
- Adjustable print cache
- Data compression
- Automatic memory allocation for format while printing
- Automatic serialization of fields
- Format inversion (white on black)
- Mirror-image printing
- Four position field rotation (0°, 90°, 180°, 270°)
- Slew command
- Programmable label quantities with print, pause, cut control
- User-programmable password
- Status messages to host on request

Communications Specifications

- ZebraNet Wireless Print Server—internally integrated 802.11b wireless option and supports symbol and cisco radio cards.
- ZebraNet 10/100 Print Server option interface Ethernet network (100BASE-T)
- ZebraNet PrintServer II interface Ethernet network (10BASE-T)
- USB 2.0 (480 Mbits/second) port
- High-speed bi-directional parallel interface, IEEE 1284-1994 compatibility, ECP, nibble mode.
- High-speed serial interfaces:
 - RS-232C with DB9F connector, optional converter for DB25F available
 - Optional RS-422/485 with multidrop capability to network multiple printers from a single host with external adapter
- Configurable baud rate (110–115.2 kB), parity, data bits, and stop bits
- Software (XON/XOFF) or hardware (DTR/DSR) communication handshake protocols
- IBM® Twinax interface—emulates IBM System 3X and AS/400 printers
- IBM Coax interface—emulates IBM System 3270 printers
- Applicator interface with DB15F connector

Electrical Specifications

- Universal power supply with power-factor correction 90–264 VAC, 48–62 Hz
- Agency approvals: Bi-National UL 60950 3rd edition/CSA CAN/CSA-C22.2 No. 60950-00 Third Edition; IEC 950/EN60950: 1992 W/amendments 1 thru 4 (CB Scheme); EN55022: 1998 Class B; EN55024: 1998; EN61000-3-2: 1995 w/A14:2000; EN61000-3-3:1995; Canadian ICES-003, Class B; FCC Class B; Argentina 92/98 Phase 3; Australia AS/NZS 3548; R.O.C. CNS 13438

Environmental Specifications

- Operating environment:
 - Thermal transfer = 41°F to 104°F (5° to 40°C)
 - Thermal direct = 32°F to 104°F (0° to 40°C) 20% to 85% non-condensing R.H.
- Storage/Transportation environment:
 - 40°F to 140°F (–40° to 60°C)
 - 5% to 85% non-condensing R.H.

R110Xi™ - 203 DPI

Printing Specifications

- 203 dpi resolution (8 dots/mm)
- Dot size (W × L):
0.0049" × 0.0049" (0.125 mm × 0.125 mm)
- First dot location measured from inside media edge:
0.10" ±0.035" (2.5mm ±0.9 mm)
- Maximum print width: 4.0" (103 mm)
- Maximum non-continuous media print length: 39" (991 mm)
- Maximum continuous media print length: 150" (3810 mm)
- Media registration tolerance: *
Vertical = ≤ ±0.060" (±1.5 mm) on non-continuous media
Horizontal = ≤ ±0.060" (±1.5 mm)
- Programmable print speeds: 2.4" (61 mm), 3" (76 mm) through 10" (254 mm) per second in 1" (25 mm) increments
- Bar code modulus "X" dimension:
Picket fence (non-rotated) orientation = 4.9 mil to 49 mil
Ladder (rotated) orientation = 4.9 mil to 49 mil

Media and Ribbon Specifications

- Media width (label and liner):
0.79" (20 mm) to 4.5" (114 mm)
- Minimum label length: See media specifications on page 1
- Maximum full-width media thickness for cutter:
0.23 mm (0.009")

General Specifications

- Power consumption:
Idle = 20 W
Printing = 121 W (printing pause test label at lowest speed)
Standby = 25 W
- Height: 15.5" (393.7 mm)
- Width: 10.37" (263.5 mm)
- Depth: 19.5" (495.3 mm)
- Weight: 50 lbs. (22.7 kg)

R110Xi™ - 300 DPI

Printing Specifications

- 300 dpi resolution (12 dots/mm)
- Dot size (W × L):
0.0033" × 0.0039" (0.084 mm × 0.01 mm)
- First dot location measured from inside media edge:
0.023" ±0.035" (0.6 mm ±0.9 mm)
- Maximum print width: 4.0" (103 mm)
- Maximum non-continuous media print length: 39" (991 mm)
- Maximum continuous media print length: 100" (2540 mm)
- Media registration tolerance: *
Vertical = ≤ ±0.060" (±1.5 mm) on non-continuous media
Horizontal = ≤ ±0.060" (±1.5 mm)
- Programmable print speeds: 2.4" (61 mm), 3" (76 mm) through 8" (203 mm) per second in 1" (25 mm) increments
- Bar code modulus "X" dimension:
Picket fence (nonrotated) orientation = 3.3 mil to 33 mil
Ladder (rotated) orientation = 3.9 mil to 39 mil

Media and Ribbon Specifications

- Media width (label and liner):
0.79" (20 mm) to 4.5" (114 mm)
- Minimum label length: See media specifications on page 1
- Maximum full-width media thickness for cutter:
0.23 mm (0.009")
- Ribbon width: 0.79" (20 mm) to 4.33" (110 mm)

General Specifications

- Power consumption:
Idle = 20 W
Printing = 121 W (printing pause test label at lowest speed)
Standby = 25 W
- Height: 15.5" (393.7 mm)
- Width: 10.37" (263.5 mm)
- Depth: 19.5" (495.3 mm)
- Weight: 50 lbs. (22.7 kg)

Font Specifications (300dpi) 12 dot/mm

Font	Matrix (in dots) (H × W)	Type†	Min. Char. Size (H × W) in inches (mm)	Max. CPI
A	9 × 5	U-L-D	0.030 × 0.020 (0.76 × 0.51)	50.0
B	11 × 7	U	0.037 × 0.030 (0.94 × 0.76)	33.3
C, D	18 × 10	U-L-D	0.060 × 0.040 (1.5 × 1.0)	25.0
E	41 × 20	OCR-B	0.137 × 0.087 (3.5 × 2.2)	11.5
F	26 × 13	U-L-D	0.087 × 0.053 (2.2 × 1.3)	18.8
G	60 × 40	U-L-D	0.200 × 0.160 (5.1 × 4.1)	6.3
H	30 × 19	OCR-A	0.100 × 0.093 (2.5 × 2.37)	10.7
GS	24 × 24	SYMBOL	0.080 × 0.080 (2.03 × 2.03)	12.5
P	20 × 18	U-L-D	0.067 × 0.060 (1.69 × 1.52)	N/A
Q	28 × 24	U-L-D	0.093 × 0.080 (2.37 × 2.03)	N/A
R	35 × 31	U-L-D	0.117 × 0.103 (2.96 × 2.62)	N/A
S	40 × 35	U-L-D	0.133 × 0.117 (3.39 × 2.96)	N/A
T	48 × 42	U-L-D	0.160 × 0.140 (4.06 × 3.56)	N/A
U	59 × 53	U-L-D	0.197 × 0.177 (5.00 × 4.49)	N/A
V	80 × 71	U-L-D	0.267 × 0.237 (6.77 × 6.01)	N/A
Ø	variable	U-L-D	variable	N/A

†U—Uppercase L—Lowercase D—Descenders

Standard Printer Fonts

Fonts A through V are Expandable up to 10 times, height and width independently. Fonts E and H, however are not considered "in-spec" (OCR-A and OCR-B) when expanded.

The scaleable smooth font 0 is expandable on a dot-by-dot basis, height and width independent, while maintaining smooth edges. Max. character size depends on available memory. IBM Code Page 850 international character sets are available in fonts A through G, and 0 through software control.

R170Xi™

Printing Specifications

- 203 or 300 dpi resolution (8 or 12 dots/mm)
- Dot size 300dpi (W × L):
0.0033" × 0.0033" (0.084 mm × 0.084 mm)
- Dot size 203dpi (W × L):
0.0049 × 0.0049" (0.125 × 0.125mm)
- First dot location measured from inside media edge:
0.10" ±0.035" (2.5 mm ±0.9 mm)
- Maximum print width: 6.6" (168 mm)
- Maximum non-continuous media print length:
16MB memory = 39" (991 mm)
- Maximum continuous media print length:
16MB memory = 100" (2540 mm)
- Media registration tolerance: *
Vertical = ≤ ±0.060" (±1.5 mm) on non-continuous media
Horizontal = ≤ ±0.060" (±1.5 mm)
- Programmable print speeds for 203dpi: 2.4" (61 mm), 3" (76 mm) through 12" (305 mm) per second in 1" (25 mm) increments
- Programmable print speeds for 300dpi: 2.4" (61 mm), 3" (76 mm) through 8" (203 mm) per second in 1" (25 mm) increments
- Bar code modulus "X" dimension:
Picket fence (non-rotated) orientation = 3.33 mil to 33 mil
Ladder (rotated) orientation = 3.9 mil to 39 mil

Media and Ribbon Specifications

- Media width (label and liner):
2.0" (51 mm) to 7.1" (180 mm)
- Minimum label length: See media specifications on page 1
- Maximum full-width media thickness for cutter:
0.18 mm (0.007")
- Ribbon width: 2.0" (51 mm) to 6.7" (170 mm)

General Specifications

- Power consumption:
 - Idle = 20 W
 - Printing = 220 W (printing pause test label at lowest speed)
 - Standby = 25 W
- Height: 15.5" (393.7 mm)
- Width: 13.15" (334.4 mm)
- Depth: 19.5" (495.3 mm)
- Weight: 67 lbs. (30.5 kg)

*Media registration and minimum label length are affected by media type and width, ribbon type, and print speed. Performance improves as these factors are optimized. Zebra recommends always qualifying any application with thorough testing.